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1   Abstract of the Disclosure

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3   A method and apparatus for a reliable data storage system using block level

4   checksums appended to data blocks. Files are stored on hard disks in storage blocks,

5   including data blocks and block-appended checksums. The block-appended checksum

6   includes a checksum of the data block, a VBN, a DBN, and an embedded checksum for

7   checking the integrity of the block-appended checksum itself. A file system includes file

8   blocks with associated block-appended checksum to the data blocks. The file blocks with

9   block-appended checksums are written to storage blocks. In a preferred embodiment a

10   collection of disk drives are formatted with 520 bytes of data per sector. For each 4,096-byte

11   file block, a corresponding 64-byte block-appended checksum is appended to the file block

12   with the first 7 sectors including most of the file block data while the 8th sector includes the

13   remaining file block data and the 64-byte block-appended checksum.